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October 12, 2006

Mr. Tom Gainer
Oregon Department of Environmental Quality
2020 SW Fourth Avenue, Suite 400
Portland, OR 97201-4987

**Subject: Storm Water Evaluation
Terminal 5 Upland Facility
ECSI No. 1686**

Dear Tom:

In response to your email of March 22, 2006, the Port of Portland (Port) has completed an evaluation of storm water at the Terminal 5 Upland Facility (Terminal 5) as a potential current source of contamination to the Portland Harbor Superfund Site. Based on our evaluation, no further assessment of storm water is needed for Terminal 5. This conclusion is based on:

- Absence of potential sources at Terminal 5;
- Relatively short history of industrial development;
- Low impact of the activities conducted;
- Tenants have storm water permits and implement best management practices (BMPs);
- The location of Terminal 5 storm water outfalls downstream of the Portland Harbor Superfund Site Study Area; and
- Lack of any significant impact to sediments from the facility.

This letter provides a brief background of Terminal 5 and summarizes the results of the storm water evaluation leading to the above conclusions, including an assessment of the Terminal 5 operations, drainage basins, leases, BMPs, and potential sources.

BACKGROUND

Terminal 5 is located in the Rivergate Industrial District of north Portland (Figure 1). The property was undeveloped prior to 1975. Between 1964 and 1973, portions of the area were filled in preparation for development. Three tenants currently operate facilities at Terminal 5: Portland Bulk Terminals, LLC (PBT), Tenex Management Limited (Tenex), and Columbia Grain, Inc. (Figure 2). Alcatel Submarine Network (Alcatel) operated at Terminal 5 from 1988 through 2001 when it shutdown its fiber optic cable plant. The facility was unused until February 2006 when Alcatel assigned its lease to Tenex.

The Port submitted a Preliminary Assessment (PA) to the Oregon Department of Environmental Quality (DEQ) on September 7, 2000 in response to a request made by DEQ in a letter to the Port dated December 16, 1999. The PA documented Terminal 5 facility history, operations, previous site investigations and results, and reported spills and related cleanup. DEQ provided comments on the PA to the Port in a letter dated May 15, 2001. In the May 15, 2001 letter,



DEQ concluded that, based on a review of sediment data, site operations and information on historical spills contained in the PA, there did not appear to be significant sediment contamination adjacent to the site related to site activities. However, DEQ requested information on seven items to complete its evaluation for determining whether a "no further action" letter could be issued for Terminal 5.

The Port provided information on six of the seven items in a letter to the DEQ dated August 31, 2001. In a March 14, 2005 letter, DEQ noted two issues (one remaining from the May 15, 2001 comment letter and one new issue) requiring resolution prior to issuance of a DEQ determination of No Further Action at Terminal 5. These two issues were: (1) confirmation of groundwater quality in the vicinity of the former so-called "Blue Lagoon;" and (2) management of buried former Blue Lagoon residual sediment. The Port completed additional groundwater monitoring and reporting to address the first issue (BBL/ACA/NewFields, 2006a) and prepared a Contaminated Area and Media Management Plan (CAAMMP; BBL/ACA/NewFields, 2006b) to address the second issue.

On March 22, 2006, DEQ requested a storm water evaluation be completed prior to its issuance of the No Further Action letter.

STORM WATER EVALUATION

Available information on Terminal 5 operations, storm water system, drainage basin characteristics, tenant activities, and potential chemical sources were reviewed to evaluate whether storm water at Terminal 5 could present a potential source to the Portland Harbor Superfund Site, and/or whether further assessment was warranted.

Terminal 5 Operations, Drainage Basin Characteristics, and Potential Sources

Information on Terminal 5, including operations, potential sources, drainage basins, and storm water system were provided in the September 7, 2000 Terminal 5 PA and supplemented in a letter from the Port to DEQ dated August 31, 2001.

The following summarizes information relevant to this storm water evaluation for each of the tenants currently operating at Terminal 5.

PBT. The PBT facility covers 141 acres. Improvements on the PBT facility were constructed beginning in 1982 to handle coal. However, the facility was never used, and in 1996 the improvements were reconstructed to handle export of bulk minerals (primarily potash (potassium chloride), a common additive to fertilizer, but also small amounts of urea, sulfate of potash, and soda ash). Minerals arrive at the facility in rail cars and are loaded into a covered storage building and then to ships at Berth 503 via conveyors. The covered conveyance system is equipped with dust suppression and collection equipment. The conveyor washing system discharges to the sanitary sewer.

A storm drain system consisting of two drainage basins drains about 80 acres of the PBT facility (Figure 2). The southern basin covers over 70 acres. Of that total area, 10 acres consists of paved roadway and 6 acres is covered with the storage building. The remaining 54 acres are unpaved with the surface primarily gravel (e.g., railroad ballast) or grass. The ground surface is relatively flat with little chance of surface erosion. The storm drain system for the southern

basin consists of surface ditches that lead to a nearly two acre settling pond. The pond discharges to a ditch that leads to a sedimentation manhole, a sampling manhole, and finally to outfall RG13PP on the Willamette River. The northern basin covers about six acres and is entirely paved or covered with small buildings. Storm water drains to a perimeter ditch that discharges to the sampling manhole and then outfall RG13PP.

The PA did not identify any source areas at the PBT facility. Historical assessments identified small issues that were addressed: an empty above-ground diesel tank; storage of oil, gasoline, and paint in a trailer; and a non-PCB mineral oil release from a transformer. The former Blue Lagoon was historically a potential source of metals. However, the former Blue Lagoon area did not drain to the storm water system, and the area has been filled so it can not come into contact with storm water.

Alcatel/Tenex. In 1988, the Port entered into a 30-year lease with Alcatel of about 15 acres for the purpose of manufacturing fiber optic submarine cable. From 1988 through 2001, Alcatel manufactured and exported fiber optic cable. Alcatel performed all manufacturing indoors and cable was loaded onto ships at Berth 502. The location was unused from 2001 until 2006. In February 2006, Alcatel assigned its lease to Tenex. Tenex is a material supplier, primarily to the steel industry.

Over 80 percent of the Tenex parcel is paved or covered with the building. All industrial activities conducted by Tenex are performed indoors. The facility has a storm drain system that collects almost exclusively the building roof drainage and discharges through one outfall, STSOUT269, to the Willamette River (Figure 2).

The PA did not identify any source areas at the Alcatel facility. Historical assessments identified small areas of surface soil stained with petroleum hydrocarbons. That soil (about 30 cubic yards total) was removed and disposed of off-site in a landfill. The locations where that soil was removed are now beneath the facility building.

Columbia Grain. The grain terminal was constructed in 1975. It covers 42 acres and includes one berth in the Willamette River (Berth 501). Grain moves through this facility by barge, rail, or truck. Hydraulic equipment used to move the grain contains food grade oil (not petroleum hydrocarbons). The facility has about ten acres of paved surfaces and two acres of buildings. A storm drain system is present that collects storm water from the paved and building-covered areas of the facility (Figure 2). Unpaved areas do not drain to the storm drain system. Storm water discharges to the Willamette River through two outfalls (RG11PP and RG12PP).

The PA did not identify any source areas at the Columbia Grain facility.

Storm Water Permits and BMPs

The PBT and Columbia Grain facilities are permitted to discharge storm water under General 1200-Z NPDES permits (since Tenex does not conduct manufacturing or other industrial activities outdoors, no operation-specific storm water permit is required). In accordance with these permits, these facilities have prepared and implemented storm water pollution control plans (SWPCPs) that include storm water BMPs. PBT and Columbia Grain are in compliance with their storm water permits, and there have been no recent benchmark exceedances during permit-required sampling of storm water discharges.

Historically, there have been two Notices of Non-compliance for total suspended solids at the PBT facility.

- On June 26, 1998, the DEQ issued Notice of Non-compliance #WQ-NWR-98-052 for high total suspended solids (TSS; 210 mg/L versus a permit benchmark of 130 mg/L; DEQ, 1998). According to a letter from Hall-Buck Marine (HBM) to DEQ, a resident beaver had built a dam at the Stormwater Pond discharge. Removal of the dam resulted in turbidity in the water, which may have coincided with the sampling event (Hall-Buck Marine, 1998). Additionally, the area around the sampling manhole was graded to avoid accidental soil introduction into the stormwater conveyance system.
- On January 15, 1999, the DEQ issued Notice of Non-compliance #WQ-NWR-99-008 for an elevated TSS result. A December 31, 1998, sample had 55 mg/L TSS. According to a letter from Kinder Morgan to DEQ, heavy rainfall contributed to erosion from unlined drainage ditches. Erosion controls were added in ditches and around ditch drains. A footnote to this letter from Kinder Morgan pointed out that there had been no outdoor product storage since their operations began, but two TSS exceedances had occurred within the prior eight months (Kinder Morgan, 1999a).

BMPs employed at PBT and Columbia Grain are discussed below.

PBT. BMPs employed at PBT include (Kinder Morgan, 2003):

- A 480-gallon above-ground gasoline fuel storage tank has a double-wall construction to prevent leakage. The tank is mounted on a concrete secondary containment pad to capture inadvertent drips or spills from vehicle fueling operations. Liquids on the containment pad drain to an oil/water separator which discharges to the sewer. A small tank of diesel fuel is kept on a portable cart. Absorbents are maintained in the area and care is taken to immediately contain and wipe up any spills that may occur. Other hazardous substances are stored in areas that do not drain to the storm system.
- Minor amounts of oil and grease from motorized vehicles occur on paved areas. Oil or grease used in the maintenance of machinery is stored in the maintenance shop and is not exposed to storm water. Any oil or grease that may spill or leak during maintenance is cleaned up before it can contact storm water.
- Used oils are stored and recycled. All wastes are disposed of as solid waste at properly permitted sites and are kept covered to prevent exposure of storm water. The facility is a conditionally exempt hazardous waste generator, and the wastes managed under this generator status are citrus-based parts waste solvent and universal waste. Off-spec potash is sold in Oregon for agricultural uses.
- The majority of the facility has vegetation growing on it. Roads are either graveled or paved. The retention pond helps to reduce sediment in the storm water discharge.
- The retention pond and storm water ditches act to eliminate or minimize debris in storm water discharges. Blocked ditches or storm water conveyances are unblocked as needed.
- Storm water from the steam cleaning pad is captured in a sump and is diverted to the sanitary sewer. Most of the storm water from the Terminal 5 transfer tower falls within

the containment area and is diverted into the effluent tanks for discharge to the sanitary sewer; some storm-water from this area falls outside of the contained area and is diverted into the drainage ditches

- The railcar unloading pit, conveyors, and storage building are covered to prevent exposure of storm water to products handled.
- Potential impacts to storm water are minimized by regular inspections (informally on a daily basis and formally on a weekly and monthly basis) of docks, tower sumps, and work barge surfaces. Cleaning, sweeping, and vacuuming of these areas are done on as-needed basis based on inspection findings and primarily around cargo changes.
- Inadvertent spills and releases of solid cargo products are cleaned up by means of sweeping and/or vacuuming. Leaks or drips of oil on docks and on work barges are cleaned up using absorbents and then containerized as quickly as practicable. An ample supply of absorbents and cleaning equipment are stored in the maintenance shop at all times.
- The PBT Terminal 5 Terminal Manager is responsible for administering the maintenance and inspection programs that include daily inspections of areas where storm water could be impacted; monthly inspections facilities; and maintenance activities for all product handling equipment and storm water facilities.

Columbia Grain. BMPs employed at Columbia Grain include (Columbia Grain, 2001):

- Monthly Inspections of areas where potential spills of significant materials or industrial activities could impact storm water runoff.
- Monthly Inspections of storm water control measures, structures, catch basins, and treatment facilities.
- Cleaning/maintenance and or repair of all material handling and storage areas and all storm water control measures, structures, catch basins, and treatment facilities as needed upon discovery.
- No chemicals are handled at the facility that could be exposed to storm water. Columbia Grain is a conditionally exempt hazardous waste generator.

Location of Terminal 5 Outfalls

The Portland Harbor Superfund Site study area has been expanded from the Initial Study Area of river mile (RM) 3.5 to RM 9.2 to an area encompassing RM 2 to RM 11. Even as expanded, the Study Area is upstream of Terminal 5. The outfalls from Terminal 5 flow to the Willamette River between River Miles (RM) 1.1 to 1.4 (Figure 2). The Terminal 5 outfalls are located downstream of the Portland Harbor Superfund Site Study Area, and therefore, there cannot be a complete pathway from Terminal 5 to the Study Area via the storm water system.

Sediment Adjacent to Terminal 5

Sediment sampling was conducted at Terminal 5 on several occasions from 1995 to 2000, incidental to maintenance dredging at facility berths. The chemical data from these sampling events were submitted to DEQ during the PA review process. DEQ, in a letter to the Port dated

May 15, 2001, summarized the results of the sediment sampling and concluded: *"Based on a review of sediment data, site operations and historic spills and/or hazardous substance releases, there does not appear to be significant sediment contamination adjacent to the subject site that is related to site activities."*

CONCLUSIONS

The review of available information pertinent to storm water at Terminal 5 demonstrates that storm water does not present a source to the Portland Harbor Superfund Site and no further evaluation is warranted. First, there is no complete pathway from Terminal 5 to the Portland Harbor Study Area because the storm water outfalls are located downstream of the study area. Second, even if there were a complete pathway, the review of available information pertinent to storm water at Terminal 5 demonstrates that storm water will not present a source to river sediments. Based on this storm water evaluation and work completed to meet the remaining issues identified in DEQ's March 14, 2005 letter, all issues identified by DEQ have been resolved and a No Further Action decision is appropriate.

In addition, for purposes of proper facility tracking, we request that DEQ remove references to Port of Portland Terminal 5 and any of its former or current tenants, including Alcatel/STC Submarine, Columbia Grain, Kinder Morgan and Portland Bulk Terminals, from the ECSI Site listing 2980. These locations are being and should continue to be handled under ECSI Site listing 1686.

We look forward to your review of this storm water evaluation and receipt of a No Further Action determination for Terminal 5.

Please call me at (503) 944-7323 if you have any questions.

Sincerely,



Nicole Anderson
Environmental Program Manager

Attachments:

- Figure 1 – Site Location Map
- Figure 2 – Site Facility and Storm Water Map

c: David Ashton, Port
David Breen, Port
Anne Summers, Port
Bob Teeter, Port
Amanda Spencer, Ash Creek Associates
LWP File

References:

BBL/ACA/NewFields, 2006a. Groundwater Monitoring Report, December 2005, Terminal 5 Upland Facility. Prepared for Port of Portland, January 2006.

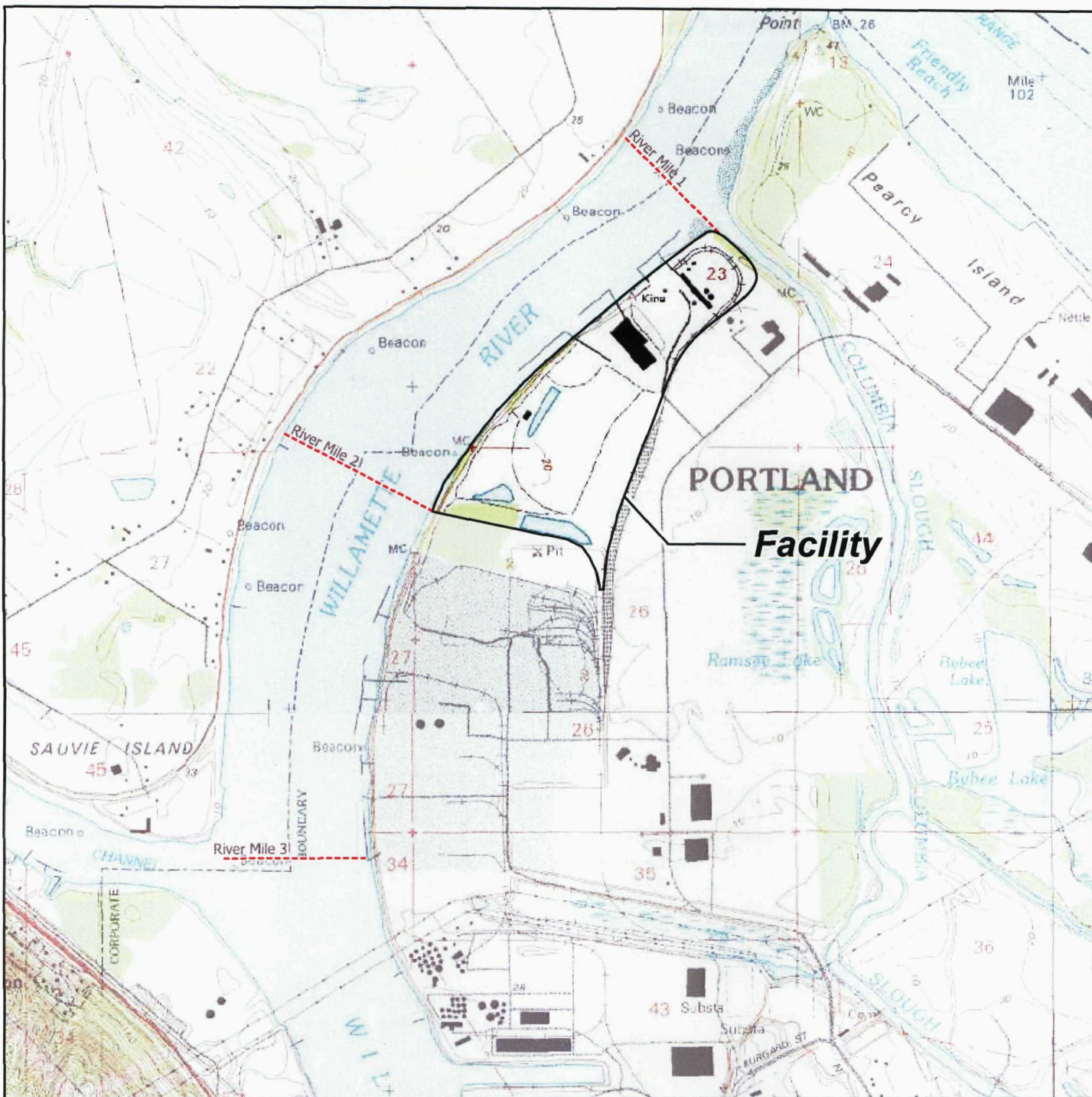
BBL/ACA/NewFields, 2006b. Contaminated Area and Media Management Plan, Terminal 5 Upland Facility. Prepared for Port of Portland, February 2006.

Columbia Grain, 2001. Storm Water Pollution Control Plan.

Hall-Buck Marine, Inc., 1998. Letter regarding HBM Portland Bulk Terminal 5, Exceedance Notice, Permit No. 101377; Outfall 001 from Ms. Krien-Schmidt. June 10, 1998.

Kinder Morgan, 1999. Letter regarding Letter of Violation & Notice of Intent to Assess Civil Penalty LOV-1998-026; Discharge Permit No. 400-132, Portland Bulk Terminal 5, from Ms. Krien-Schmidt to Mr. Dean. September 9, 1998.

Kinder Morgan, 2003. Storm Water Pollution Control Plan, Terminal 5. May 2003.



Base map prepared from USGS 7.5-minute quadrangles as provided by Topozone.

0 2000 4000
Scale in Feet



Note: River mile locations based on DEQ maps for the Portland Harbor Study.



Facility Location Map

Storm Water Evaluation
Terminal 5 Upland Facility
Portland, Oregon



Ash Creek Associates, Inc.
Environmental and Geotechnical Consultants

Project Number

1092-01

Figure

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July 2006

